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STEVEN I. WEISBURD, ESQ  
DICKSTEIN SHAPIRO MORIN & OSHINSKY LLP  
1177 AVE OF THE AMERICAS -41ST FLOOR  
NEW YORK, NY 10036

EXAMINER

CHANKONG, DOHM

ART UNIT PAPER NUMBER

2152

DATE MAILED: 05/10/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/818,955

Applicant(s)

NISHI, KOJI

Examiner

Dohm Chankong

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 18 April 2005.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-15 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-15 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_

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### DETAILED ACTION

1> This action is in response to Applicant's request for continued examination. Claims 11-15 have been added. Claims 1-15 are presented for further examination.

#### *Response to Arguments*

2> Applicant's arguments with respect to claims 1-15 have been considered but are moot in view of the new ground(s) of rejection.

#### *Claim Rejections - 35 USC § 112*

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

3> Claims 1-9 and 11-15 rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

a. Claims 1 and 8 are rejected for lacking proper antecedent basis: "said network service management device cluster". The relationship between the "network service management device cluster" and the "network service management device of managing device clusters" is ambiguous and needs to be clarified;

b. Claim 2 is rejected for lacking proper antecedent basis: "said multi-service broker";

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- c. Claim 2 is rejected for not clearly defining what applicant regards as the invention: "setting necessary information" is a vague and unclear description. This term should be further defined or clarified to more properly claim the subject matter;
- d. Claim 6 is rejected for lacking proper antecedent basis: "said service storage section".
- e. Claim 7 is rejected for confusing claim language: "said internal system comprises any of a customer care server...". The implication being that the internal system can consist of either a care server or a design server or policy server or a management device. If this is the case, then the distinction is clearly defined and claimed and needs to be clarified [the use of commas instead of semicolons seem to suggest that this is the case]. If it is not the case, then it is still unclear what is meant then by "any of a customer care server" when there is only one server being mentioned.

*Claim Rejections - 35 USC § 102*

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless -

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

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4> Claims 1, 2, 10 and 12-15 are rejected under 35 U.S.C § 102(e) as being anticipated by Arunchalam et al, U.S Patent No. 6.631.122 ["Arunchalam"].

5> As to claim 1, Arunchalam discloses a quality assured network service provision system compatible with a multi-domain network, wherein

a communication network comprising a plurality of operations management networks (domains) which are connected to a plurality of customer networks with user terminals and which are respectively managed by different providers [Figure 2 | column 4 «lines 1-15»], the system comprising:

a network service management device for collectively managing device clusters incorporated within an operations management network of each of said providers, and negotiating with another operations management network which is managed by another provider and with which interconnection is to be established based on a required quality level from a customer so as to ensure an end-to-end quality level [Figure 2 | column 4 «lines 16-33» where : IP Qos manager is interpreted as a network service management device]; and

a service broker device at the functional host layer of said network service management device cluster for storing information on the operations management networks managed by the respective providers, and brokering a service agreement between the operations management networks of said plurality of providers [column 4 «lines 1-59» | column 5 «lines 54-67»].

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6> As to claim 2, Arunchalam discloses the quality assured network system compatible with a multi-domain network of claim 1, wherein

said network service management device comprises an outputting device for outputting information on services which can be provided by each of said providers and domain information to said multi-service broker [column 6 «lines 13-51»]; and

said service broker device comprises a device for storing output information from each network service management device, selecting a network service management device of a domain which will satisfy a required quality level when a network service request is generated by a customer, and issuing instructions for introducing and setting necessary information [column 5 «lines 54-67» | column 8 «line 47» to column 9 «line 18»].

7> As to claim 12, Arunchalam discloses the quality assured network service provision system compatible with a multi-domain network of claim 1, wherein the service broker device designs an inter-domain connection route and the network service management device designs an intra-domain route so as to satisfy the required quality level [column 4 «lines 16-33» | column 8 «lines 29-46»].

8> As to claim 13, Arunchalam discloses the quality assured network service provision system compatible with a multi-domain network of claim 1, wherein quality levels which can be provided and methods for specifying the quality levels are different for the respective providers, and the service agreement is reached in such a way that required quality levels are associated with service levels in the respective providers in order to maintain the quality

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levels at a constant level in the multi-domain network [column 6 «lines 17-25 and 52-65» | column 9 «lines 7-18» | column 11 «lines 17-54»].

9> As to claim 14, Arunchalam discloses the quality assured network service provision system compatible with a multi-domain network of claim 1, wherein a bandwidth broker provided in the network service management device refers to available resource capacity between the domains and service information, and determines whether an agreement is possible by checking whether requested service information can be accommodated by a service agreed to between the domains [column 8 «lines 29-53» | column 9 «lines 32-41»].

10> As to claim 15, Arunchalam discloses the quality assured network service provision system compatible with a multi-domain network of claim 1, wherein the agreement is one relating to service conditions for providing a service of consistent quality throughout the multi-domain network which satisfies the required quality level [column 1 «lines 7-14» | column 6 «line 66» to column 7 «line 12»].

11> As to claim 10, as it does not teach or further define over the claimed limitations of claim 1, claim 10 is similarly rejected for the same reasons set forth for the rejection of claim 1, *supra*.

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The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

12> Claims 3 and 5-7 are rejected under 35 U.S.C § 103(a) as being unpatentable over Arunchalam.

13> As to claim 3, Arunchalam discloses the quality assured network service provision system compatible with a multi-domain network of claim 2, wherein

said network service management device comprises an input and output device for input, by an operator, of information on services which can be provided by said provider and domain information made up of configuration information about an operations management network of said provider [column 6 «lines 13-51» | column 11 «line 62» to column 12 «line 23»];

a workflow server for determining transfer destinations for processing commands based on each service request from a customer [column 6 «lines 41-51» | column 8 «line 65» to column 9 «line 18» where : Arunchalam's Qos manager is interpreted as having the same functionality as the workflow server];

a bandwidth broker for registering said domain information and service information in said service broker device, and determining, in cooperation with said workflow server, a subject for executing a subsequent process [Figure 3 | column 4 «lines 23-39» | column 8 «lines



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47-53» where: the Qos agent is analogous to a bandwidth broker and works with the Qos manager]; and

an internal processing system for performing processing management of information required by said communication device [column 4 «line 34» to column 5 «line 16»].

Arunchalam does not explicitly disclose storage devices for storing information input from said input and output device by information type. Arunchalam discloses retrieving information from said input and output device by information type [column 8 «line 36» to column 9 «line 17»]. And as storage devices are ubiquitous and expected in the art, it would have been obvious to one of ordinary skill in the art to incorporate storage devices into his system to enable storage of the information for easy access by the various managers and agents in the network.

14> As to claim 5, Arunchalam discloses the quality assured network service provision system compatible with a multi-domain network of claim 3, wherein

said bandwidth broker and said workflow server have a means for deciding, based on logic, whether a subject for executing a subsequent process due to a customer service request is in an external system or an internal system [column 4 «lines 16-26» : “intradomain” and “interdomain” service level negotiation];

said bandwidth broker has a means for deciding a domain in cases where a subject for executing a subsequent process in an external system [column 4 «lines 16-26» | column 9 «lines 45-59»];

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said workflow server has a means for deciding an internal processing system of a forward destination in cases where a subject for executing a subsequent process is in an internal system [column 4 «lines 16-26» | column 6 «line 66» to column 7 «line 12»].

15> As to claim 6, Arunchalam discloses the quality assured network service provision system compatible with a multi-domain network of claim 3, wherein

said service broker device has a means for referring to service information stored in said service storage section and deciding whether a subject for executing a subsequent process due to a customer service request is in an external system or an internal system [Figure 7 | column 4 «lines 16-26» : “intradomain” and “interdomain” service level negotiation];

a means for deciding an external forwarding destination in cases where a subject for executing a subsequent process is an external system [column 4 «lines 16-26» | column 9 «lines 45-59»]; and

a means for deciding an internal processing system of a forward destination in cases where a subject for executing a subsequent process is in an internal system [column 4 «lines 16-26» | column 6 «line 66» to column 7 «line 12»].

16> As to claim 7, Arunchalam discloses the quality assured network service provision system compatible with a multi-domain network of claim 3, wherein

said internal system comprises any one of a customer care server for managing service order information received from customers [column 6 «lines 31-40»],

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a design server for managing network resources of an operations management network of a provider [column 6 «lines 41-51»],

a policy server for reading pre-recorded policy information, as well as converting said policy information into setting information for communication device of a specific vendor, and performing provisioning of a communication device for the provision of a service [column 9 «lines 4-59»], and

a network management device for providing a network fault management function for a configuration management and open channel incorporating communication devices within an operations management network of a provider and connection configuration of circuitry for connecting said communication devices [column 4 «lines 16-33],

each of which is connected to said workflow server [Figure 2 | Figure 3].

17> Claim 4 is rejected under 35 U.S.C § 103(a) as being unpatentable over Arunchalam in view of Yates et al, 6,330,586 [“Yates”].

18> As to claim 4, Arunchalam does not disclose:

said service broker device comprises a storage device for storing service information and domain information received from said network service management device; and

a data processing device for performing information processing such as writing and reading of information to and from said storage device, as well as providing a security management function relative to said bandwidth broker.

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19> In the same field of invention, service provisioning, Yates discloses:

said service broker device comprises a storage device for storing service information and domain information received from said network service management device (column 15, lines 41-60, column 18, lines 38-47 and column 23, lines 65-67); and

a data processing device for performing information processing such as writing and reading of information to and from said storage device, as well as providing a security management function relative to said bandwidth broker (column 24, lines 1-7 and lines 56-61).

It would have been obvious to one of ordinary skill in the art to incorporate Yates' storage device into Arunchalam's service broker device as storage devices are well known in the art for providing more efficient access of required information for network devices. Also, it would have been obvious to incorporate Yates' data processing device to enable security-type functionality into Arunchalam's system. Such security functionality is well known in the art for providing safe and secure data transmission and would enhance Arunchalam's service provisioning system.

20> Claim 11 is rejected under 35 U.S.C § 103(a) as being unpatentable over Arunchalam, in view of Lumelsky et al, U.S Patent No. 6,516,350 ["Lumelsky"].

21> Arunchalam does not disclose a single service broker.

22> Lumelsky discloses providing a single service broker that manages domain information and information on services which can be provided by the respective providers

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for all the operations management networks connected thereto [Figure 4 «item 400» | column 8 «lines 61-66» | column 9 «lines 31-39 and 45-64»]. Lumelsky's SCP is analogous to Arunchalam's service broker devices (which are distributed across the networks. It would have been obvious to incorporate Lumelsky's teaching into Arunchalam's multiple service brokers to create a single device with all the same functionality. Consolidating devices into a single device is well known in the art for providing a more efficient implementation of resources; thus, one would have been motivated to perform such an implementation to enable the same functionality into a single device instead of the multiple devices of Arunchalam's system.

23> Claims 8-9 are rejected under 35 U.S.C 103(a) as being unpatentable over Arunchalam, in view of Graham et al (hereinafter Graham), U.S Patent No. 6,594,700.

24> As to claim 8, Arunchalam discloses a method of providing a quality assured network service compatible with a multi-domain network, comprising:

the limitations of the system of claim 1 [see claim 1, supra];

wherein said method comprises:

a service agreement step in which a request is received from the customer, said service broker device and said network management device reach an agreement relating to service conditions for providing a service which will satisfy a required quality level, and route information for an appropriate domain and a network management device are selected

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[column 6 «lines 31-40» | column 6 «line 66» to column 7 «line 12» | column 8 «lines 47-53»];

and

a service provisioning step for performing service provision on a communication device based on service conditions and route information agreed upon in said network management device [column 4 «lines 16-33»].

However, Arunchalam does not teach a service registration step in which a network management device of each provider registers in said service broker device, domain information comprising configuration information and information on services which can be provided.

25> Graham teaches a service registration step in which a network management device of each provider registers in said service broker device, domain information comprising configuration information and information on services which can be provided (column 6, lines 12-49). It would have been obvious to one of ordinary skill in the art at the time the invention was made to implement Graham's service registration step into Arunchalam to provide a central registry for providing convenient and efficient method for clients to look up services.

26> As to claim 9, Arunchalam discloses the method of providing a quality assured network service compatible with a multi-domain network according to claim 8, wherein said service provisioning step further comprises a step for service order processing, a step for

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route design processing and a step for provisioning processing [column 4 «lines 16-67» | column 6 «lines 9-51»].

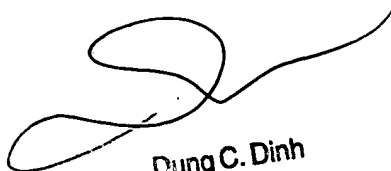
### *Conclusion*

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Dohm Chankong whose telephone number is (571)272-3942. The examiner can normally be reached on 8:30AM - 5:30PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Glenton Burgess can be reached on (571)272-3949. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

DC



Dung C. Dinh  
Primary Examiner